



Simultaneous presence of bovine papillomavirus in blood and in short-term lymphocyte cultures from dairy cattle in Pernambuco, Brazil

N. Diniz¹, T.C. Melo¹, J.F. Santos¹, E. Mori², P.E. Brandão²,
L.J. Richtzenhain², A.C. Freitas¹, W. Beçak³, R.F. Carvalho³ and R.C. Stocco³

¹Departamento de Genética, Universidade Federal de Pernambuco, Recife, PE, Brasil

²Departamento de Medicina Veterinária Preventiva e Saúde Animal, Faculdade de Medicina Veterinária e Zootecnia, Universidade de São Paulo, São Paulo, SP, Brasil

³Laboratório de Genética, Instituto Butantan, São Paulo, SP, Brasil

Corresponding author: R.C. Stocco

E-mail: ritastocco@butantan.gov.br or ritastocco@yahoo.com

Genet. Mol. Res. 8 (4): 1474-1480 (2009)

Received September 3, 2009

Accepted September 30, 2009

Published December 15, 2009

ABSTRACT. Bovine papillomaviruses (BPV) are the causal agents of benign and malignant lesions; they can cause dramatic economic losses in cattle. Although 10 virus types have been described, three types are most common in tumors, namely BPV-1, -2 and -4. Previous studies have reported BPV in blood cells and the possibility of blood acting as a latent virus site and/or transmission agent of virus dissemination. We studied a Holstein dairy herd in Pernambuco, Brazil, in which several animals showed severe cutaneous papillomatosis, without previous determination of BPV types. Blood samples and short-term lymphocyte cultures were collected from 54 cows. We compared the BPV types detected in peripheral blood to those identified in the respective lymphocyte cultures: BPV-1 was detected in 74% and BPV-2 in 87% of the whole blood samples. Simultaneous virus presence (BPV-1 and BPV-2) was found in 65% of the blood samples. BPV-1 or BPV-2 were detected in the lymphocyte cultures in 93% of the samples, and both in

89%. The detection of viral DNA in whole blood and in lymphocyte cultures is evidence that this virus is carried by lymphocytes.

Key words: Bovine papillomavirus; Cutaneous papillomatosis